CHAPTER 3

DESCRIPTIVE ANALYSIS OF MONETARY POLICY IMPACT ON BANKS' CREDIT SUPPLY

3.1 Introduction

This chapter will examine the credit condition in the Malaysian economy, dating from January 1987 to September 2000. The objective of this chapter is to find evidence on whether monetary policy implemented in the economy constraint banks' lending activity. In other words, it is a preliminary analysis to see, on the whole, whether the vital condition for the existence of credit-lending channel holds, before proceeding with the empirical analysis. In addition, by studying the interest rates' behaviour

and banks' portfolio adjustment in response to monetary tightening, it would help to pinpoint the reasons on why credit-lending is either an important channel in transmitting the effect of monetary policy to the economy, or otherwise.

3.2 Identification of Focal Episodes

The initial step in pursuing this research is to identify the focal episodes; or to isolate the periods of monetary tightening by Bank Negara Malaysia from the periods where the monetary policy is either neutral or expansionary. This is considered crucial in the sense that this study will proceed using this focal periods to examine the movements of all the financial variables. Therefore, it is of utmost important to isolate the periods of monetary tightening that really represent an important monetary shock. The selection of focal episodes will be done through the narrative approach.

3.2.1 The Narrative Approach

This approach is pioneered by Friedman and Schwartz (1963) in their work, "*The Monetary History of the United States, 1867-1960*". This method was then extended by Romer and Romer (1989), in their research paper, "*Does Monetary Policy Matter? A New Test in the Spirit of Friedman and Schwartz*". This method is also employed by Kim (1999) in investigating the importance of credit-lending channel in Korea.

The identification of monetary shocks is done through the examination of historical records. However, there is a major distinction between the characteristics outlined by Friedman and Schwartz (1963) than that of Romer and Romer (1989). It lies in the interpretations of the monetary shock.

What the former mean by a monetary shock is a movement that is unusual given economics development, that is a movement that would not have occurred in other periods or other circumstances given the pattern of real activity. The unusual movements can arise either from a conjunction of economics events, monetary institutions, and the doctrines and beliefs of the time and of the particular individuals determining policy.

On the contrary, Romer and Romer (1989) employed a much narrow definition of what constitutes a shock. They refer shock only to episodes in which the Federal Reserve attempted to exert a contractionary influence on the economy to reduce inflation. In other words, they are the times when concern about the current level of inflation led the Federal Reserve to attempt to induce a growth recession. It excludes both monetary contractions that are generated by other than inflation and all monetary expansions.

In this research, the selection of focal episodes is done in the manner that is similar to that of Friedman and Schwartz (1963). Monetary shock refers to the times when Bank Negara Malaysia tightened its monetary policy, regardless of the underlying reasons on what motivate the Central Bank to do so. This wider definition is considered to be more appropriate to judge the impact of monetary shock on the economy and the behaviour of the financial aggregates. This is so since the aim is to examine whether the behaviour of banks' loans do behave as it should be, when Bank Negara Malaysia pursue a tight monetary policy.

Furthermore, the Malaysian economy is a small and open economy. Therefore, it is closely linked to the regional and global development, making it impossible to identify any focal episode that is entirely independent of any economic developments. Obviously, the design of the monetary policy has to carefully include the external development and its consequences on the economy, especially since the 1990s, (the period under study) is the era of globalisation.

Having specified the scope for judgement of focal episodes, then come the question on the basis for selecting focal episodes. Both of the above researches relied on the Federal Reserve records. However, in the case of the Korean economy, Kim (1999) relied on information from the historical trends of major financial variables, such as various monetary

aggregates and short-term interest rates. He claimed that there were no appropriate official statements available, which can provide useful information for selecting with sufficient precision the focal episodes of a monetary tightening.

In this research, the selection of the focal episodes will be done on the basis of the records from Bank Negara Annual Reports and Economic Reports. This is to avoid choosing a period where there occur large increase in interest rates but it is not due to tightening of monetary policy. One example is in January 1989, the interest rates went up due to tightening of liquidity since there is excess demand for loans. During that particular period, the monetary authority is pursuing a neutral policy. Obviously, this increase does not reflect the stance of monetary policy. Only in May 1989, Bank Negara Malaysia raises the statutory reserve requirement resulted in further increase of the interbank interest rates. This increase reflects the stance of monetary policy.

Further, to specify the exact dates of monetary tightening, the 3-month interbank rates will also be used as a primary guideline. This is due to the fact that this interest rate is Bank Negara Malaysia's policy rate, as stated in Bank Negara Malaysia's Annual Report 1997, " *The 3-month interbank rate, which was the indicator rate of the Bank's monetary policy,.....*" In another statement, Bank Negara Malaysia claims

that, "*implicit in the action by the Bank to effect monetary changes through the money market is the assumption that interbank rates are an important signalling device to the market of monetary policy instruments. While interbank rates are determined by market forces, the Bank intervenes in 1 month money, with changes transmitted to 3 month money and along the term structure...*"

Apart from that, Mishkin (1995) acknowledged that the interbank rate is a sensitive indicator of monetary policy. He explained it as, "*this market is very sensitive to the credit needs of the banks, so the interest rates on these loans called the inter bank rates is a closely watched barometer of the tightness of credit market conditions in the banking system and the stance of monetary policy, it indicates that the banks are strapped for funds when it is high, where as when it is low, banks' credit needs are low*". Bernanke and Blinder (1990) also demonstrated that the interbank rates or the federal fund rates are rather a good indicator of monetary policy as "*it is probably less contaminated by endogenous responses to contemporaneous economic conditions and the rate is mostly driven by policy decisions*".

Given the above consideration, the identification of the focal episodes will rely on the statement of action from the Bank Negara Annual Report. However, in identifying the exact dates, where the statement does

not provide a distinctive one, the historical trends of the 3-month interbank rates will be used as a guideline.

3.2.2 Identified Focal Episodes

The period under study is January 1987 to September 2000. The economy was in three different states under that period, which caused the different stance of monetary policy. From January 1987 to May 1989, the economy is recovering from the 1985 recession. Early 1990s to 1997 was the period of prolonged growth for the Malaysian economy. It was characterised by low unemployment rate and high inflation. Starting from mid 1997, the economy was hit by a recession, due to the regional financial crisis.

In general, the stance of monetary policy at any time reflects Bank Negara's reaction to the prevailing overall economic situation. Therefore, there is a close link between the state of the economy and the stance of monetary policy. In 1985 to 1986, monetary policy has been expansionary to help stimulate economic recovery or to avoid the threat of an economic downturn. During 1987 and 1989, monetary policy has been neutral to further support the economic recover. Awang (1992), claimed that "*there are also occasions when monetary policy can be said to be rather neutral, that is, neither expansionary nor restrictive (as in 1987 and 1988)*".

Identification of Episode 1

However, due to the rising concern about the inflation threat that is building in the economy, starting from May 1989, Bank Negara Malaysia started pursuing a contractionary monetary policy. This is evidence from the bank's statement: "*During the early part of 1989, with the inflation continue to build up in the domestic economy, the tightening of the liquidity in the system was seen to be insufficient to maintain internal price stability. Consequently, it was decided that part of this excess liquidity had to be removed to dampen inflationary pressures. Thus, Bank Negara Malaysia raised the statutory reserves of the commercial banks, finance companies and the merchant banks*". Further, the bank claimed that, "*reflecting this action by Bank Negara, interbank money market rates rose markedly in May 1989*".

Overall, the monetary policy pursued by Bank Negara Malaysia through the course of 1989 to 1997 is contractionary. However, due to external pressures, from 1993 to early 1995, Bank Negara Malaysia is forced to intervene in the interbank market to ease the interest rates. The bank faced the classic dilemma of conflict of objectives of policy arising from the contractionary monetary stance to control inflation pursued since 1989, and the need to maintain low interest rates to discourage the inflow of speculative funds. Bank Negara Malaysia has chosen to ease the monetary policy to prevent any destabilizing effects from the massive

inflows of capital. This is reflected from its statement, "*However, the Central Bank tolerated some easing of interest rates in line with lower rates abroad*". Examining the trends of the interbank rates, it started to moves downward from March 1993.

Identification of Episode 2

In 1995, the domestic liquidity conditions were free from the destabilizing capital flows. *The differential in favour of Malaysia was less significant compared to the previous two years. This factor, couple with the pick-up in credit activity during the second half of the year as well as an upward trend in some leading indicators, monetary policy was tightened further in August and again in October, (Bank Negara Malaysia Annual Report 1995).* Therefore, August 1995 is another benchmark as the start of another periods of monetary tightening by Bank Negara Malaysia. Then, this tight monetary policy is pursued throughout 1996 and the first two quarters of 1997, as a fight against inflation.

Identification of Episode 3

In July, as the "currency crisis" started in Thailand, as the initial response, the tight monetary policy is continued, as reflected by the higher interest rates to support Ringgit Malaysia. The policy stance however shifted to a stringent policy in September 1997, as reported by Bank Negara Annual Report 1998, "...*as a policy of monetary restraint was*

adopted since September 1997 to contain inflationary pressures arising from the ringgit depreciation as well as to discourage capital outflows. The 3-month interbank rate, which is Bank Negara Malaysia's policy rate had been raised in several steps from 7.55% in mid-September 1997 to 8.7% at the end of 1997."

However, dating from September 1998, Bank Negara decided to relax the tight monetary policy, to revive the economy. This is documented neatly in the Bank Negara Annual Report 1998, as, "*.....in the subsequent months, the Ringgit Malaysia exchange rates became more stable following the monetary measures undertaken between February and July 1998. There were also emerging signs that inflationary pressures had moderated. These developments enabled Bank Negara Malaysia to ease monetary policy to complement fiscal policy to revive the economy. In August, the 3-month intervention rate was adjusted downwards in three steps to 9.50%. Since September when selective exchange control were introduced, further monetary easing was pursued*".

To sum up, during the periods examined, there are three episodes of monetary tightening identified under the scope defined earlier, (see Table 3.1). Those three separate periods of monetary tightening in the Malaysian economy within the period of January 1987 to September 2000

periods are: May 1989-March 1993, August 1995-July 1997 and September 1997 to September 1998.

Table 3.1 Identified Focal Episodes

FOCAL EPISODE	DATES	LIQUIDITY
EPISODE 1	May 1989-March 1993	Tightening
EPISODE 2	August 1995-July 1997	Tightening
EPISODE 3	September 1997-August 1998	Tightening

The shaded area in the following figures (see Figure 3.1 and Figure 3.2) show the behaviour of M1, M2 and M3 in the three episodes. Note that the three monetary aggregates are consistently declining in episode 1 and episode 3. In episode 2, they did decline but it is after some lags and the decline is relatively smaller. The possible factor that caused money to increase despite the tight monetary policy is the excessive foreign capital inflows, due to financial globalisation and our open economy. These findings indicate that those identified focal episodes are indeed times of monetary tightening.

Referring to Figures 3.1 and 3.2, for each episode, the beginning of the shaded area identifies the month the tightening began. The ending of the shaded area identifies the last month before the monetary policy was eased. Thus, within each policy window, Bank Negara Malaysia was taking a series of restrictive policy actions designed to slow down the pace of economic activity and reduced inflationary pressures. This approach is

Figure 3.1 Evolution of Monetary Aggregates (M1)

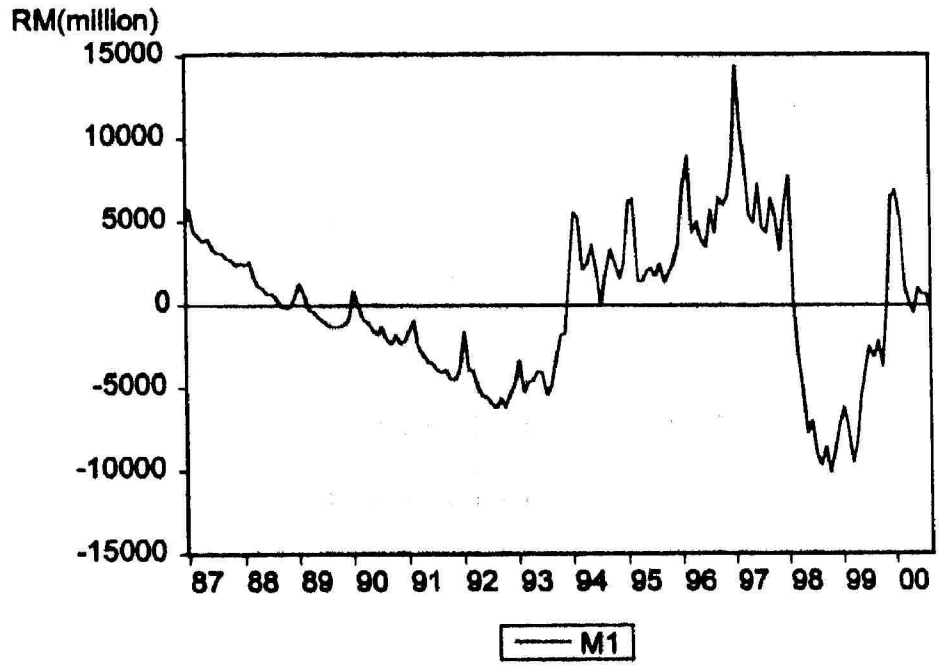
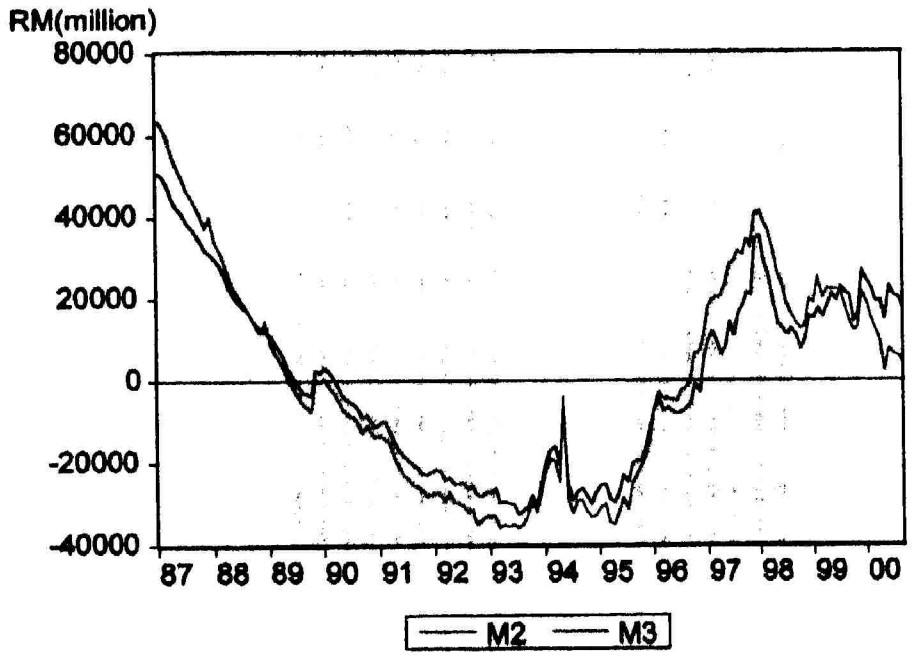


Figure 3.2 Evolution of Monetary Aggregates (M2 and M3)



adopted to provide a more precise way of viewing bank-lending behaviour during periods of monetary tightening.

During the first two episodes of monetary tightening, the aim is to dampen the inflationary pressures, to promote savings through higher interest rates and statutory reserves or liquidity requirements and to moderate consumption spending, (*Bank Negara Malaysia, 1994*). Again tight monetary policy was pursued during August 1995 to July 1997 to moderate the excessive loan growth in the economy.

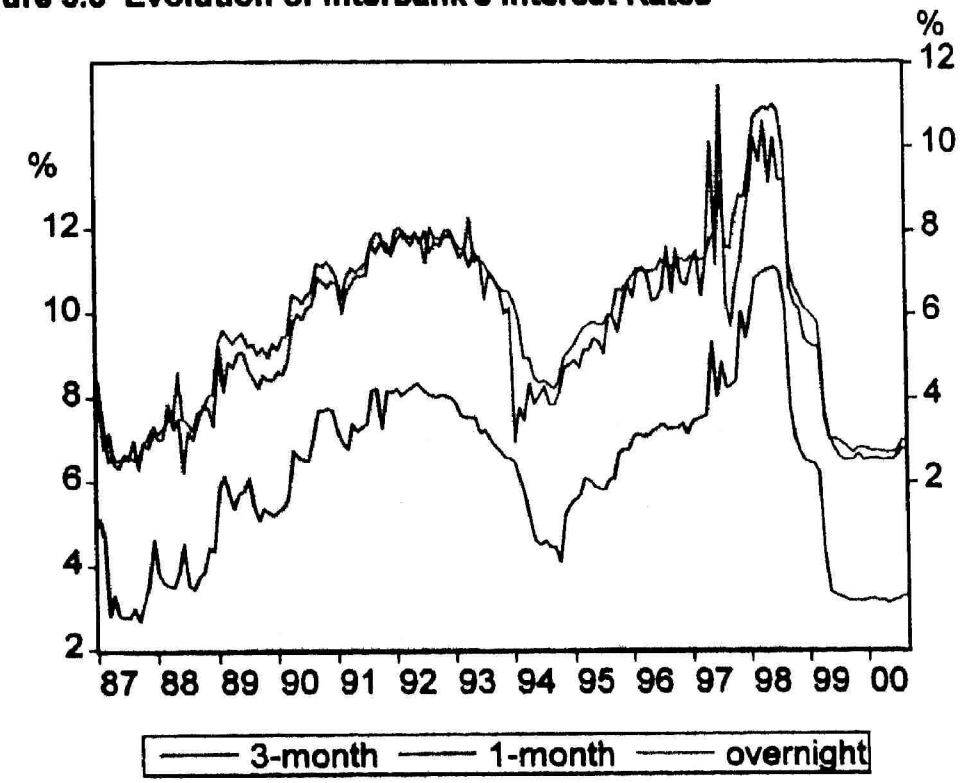
However, the tightening of monetary policy during the end of 1997 is for a different reason. Initially, the aim also has got to do with inflation; to dampen the "imported inflationary pressure", owing to the declining value of our currency. Then, it became a measure adopted to defend our currency value, which has been declining due to the regional currency turmoil. Despite the fact that we need to boost the economy, at the same time, we had to take into consideration the link between currency and capital inflows. To save the currency (Ringgit Malaysia), high interest rates are needed. No doubt it dampens domestic consumption and investment, but at that particular time, the need to save the currency; to discourage capital outflows is great. Furthermore, this measure is actually consistent with the policy prescribed by the International Monetary Fund (IMF) assistance package.

3.3 Evolution of Interbank's Rates

Figure 3.3 shows the evolution of interbank interest rates for the three periods during which Bank Negara Malaysia adopted tight monetary policy. It is also clear from the graph that the movements of the interbank interest rates are parallel to the stance of monetary policy. In all three episodes, interest rates clearly rose, substantially but gradually. From May 1989 to Mac 1993, the interest rates kept rising steadily before declining as Bank Negara eased the monetary policy in 1993 due to excessive capital inflows.

The marked increase in the interest rates however happened in 1997 when the currency crisis hit the economy. Initially, consistent with the implementation of tight monetary policy, there is a sharp increase in interest rates and they declined as Bank Negara decided to ease the policy in September 1998. This rise in interest rates after monetary contractions is a fundamental component of monetary transmission mechanism.

Figure 3.3 Evolution of Interbank's Interest Rates



3.4 Banks' Portfolio Adjustment

One approach to study bank-lending behaviour following the adoption of a restrictive monetary policy is to examine the alteration of their assets and liabilities holdings during periods of monetary restraint. Morris and Sellon (1995) have underlined several stylized facts about bank portfolio behaviour during restrictive monetary policy. First, in response to a tightening of policy, bank transactions deposit or core deposits fall immediately. Second, total bank loans decline but only after a significant lag of two to three quarters. Third, banks will be able to maintain lending in the face of decline in deposits by selling securities or issuing managed

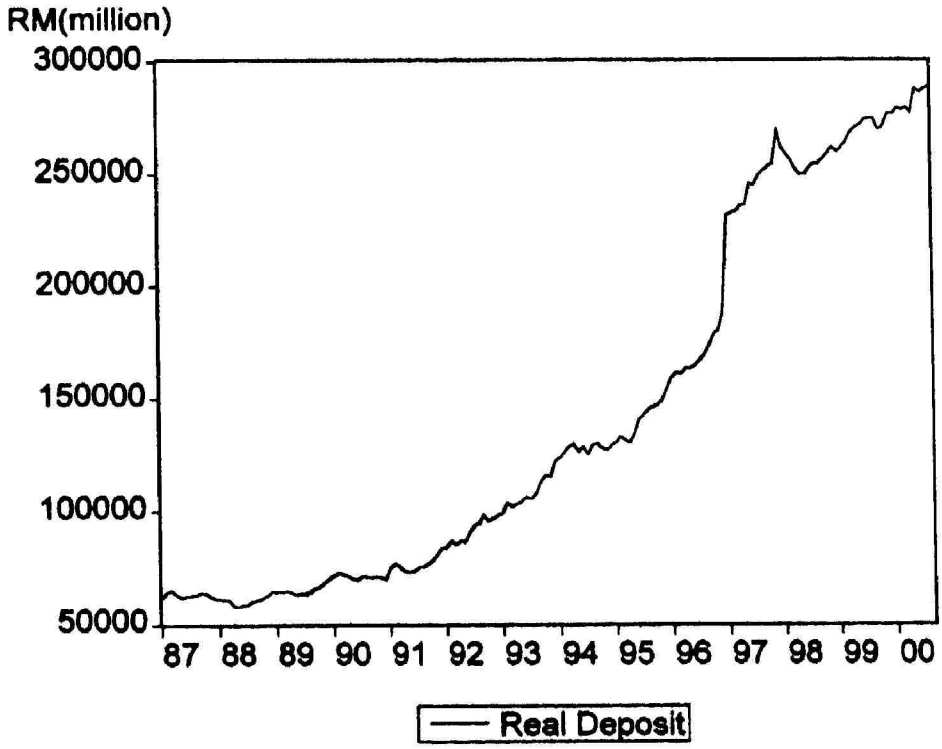
liabilities. Lastly, the eventual decline in lending is roughly contemporaneous with a decline in economic activity as measured by industrial production index or gross domestic product.

Banks' transaction deposit represents the liability side of a bank's balance sheet. A decline in the stock of reserves implies a fall in transaction deposits thereby raises the interest rates. In this case which explain the money view, reserves are valued because banks hold them against transaction deposits that can only be issued. Examining the commercial banks deposit during periods of monetary tightening, it is clear that banks' deposit fell only in the third period of monetary tightening. Otherwise, banks' deposits showed a steady increase after each monetary tightening, (see Figure 3.4).

However, the measurement used for banks' real deposit in this research might be the reason of the contradiction findings. This is so since the data on deposits that is neatly classified into savings and fixed deposits is only available until 1996. After that, the various kinds of deposits are lumped together into deposits. In order to use a uniform data throughout the period, the data used is total deposit, inclusive of fixed deposits. This might explain the findings, since when interest rates increase it will certainly attract fixed deposits. On the other hand, transaction deposits will

fall. The increase in deposits shows that the banks are not short of funds to extend new loans, despite the tight monetary policy.

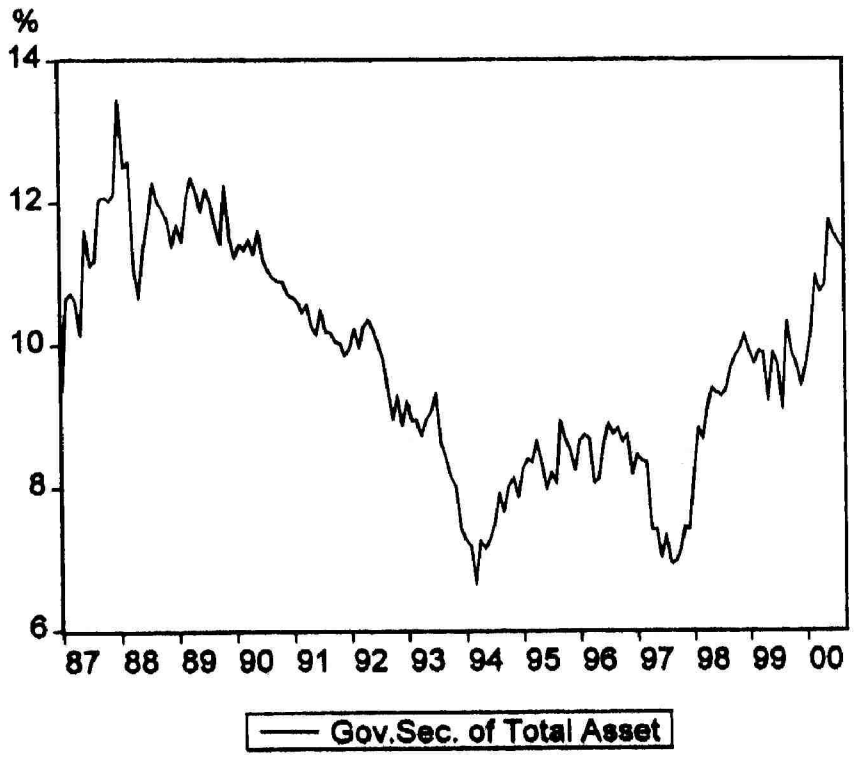
Figure 3.4 Banks' Real Deposit



The inspection of banks' security holdings is to see whether banks manage to insulate their lending activity from the tight monetary policy impact. Banks are able to cushion themselves from the impact by adjusting their holdings of government's security. Kakes (1998) referred this security as "*buffer stock*". By holding government securities as a part of their assets, during periods of tight monetary policy, the banks can easily reduce their government' securities holdings instead of reducing loans. This implies that, if during periods of tight monetary policy the banks

choose to decrease their holdings of the securities, it reflects the banks' ability to insulate their lending portfolio from the monetary policy impact. In other words, Bank Negara loses the ability to reduce the supply of loans with tight monetary policy.

Figure 3.5 Share of Governments' Securities in Banks' Total Assets

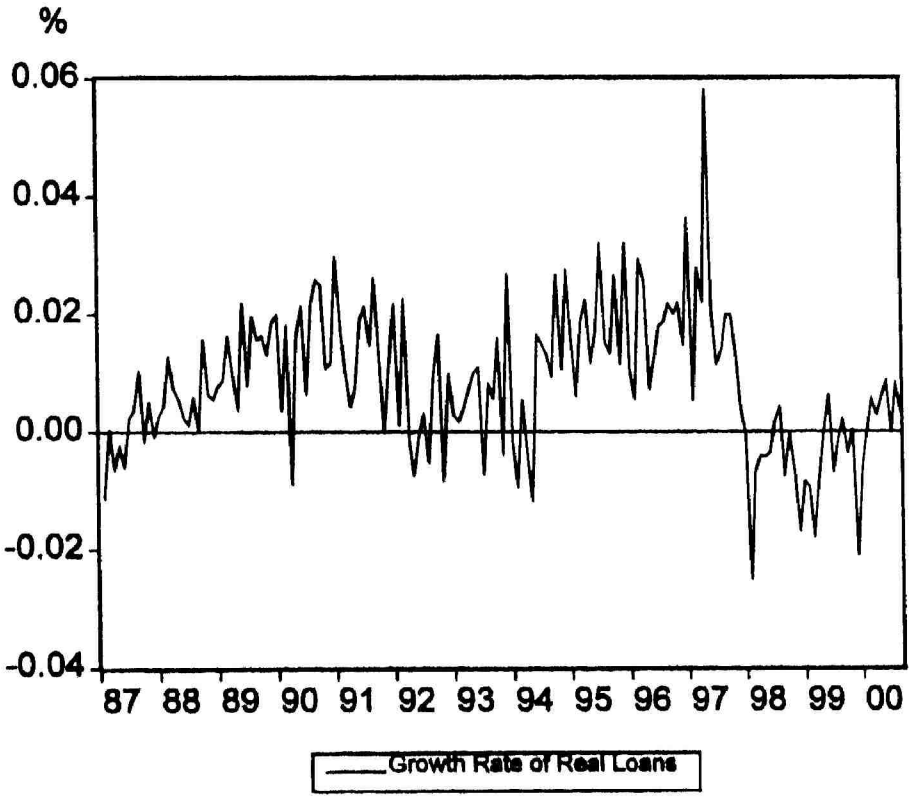


Looking at banks' security holdings, (see Figure 3.5) again the characteristics of banks' portfolio holdings differ from periods to periods of monetary policy tightening. During the first two periods, banks security holdings decreased steadily. It is not consistent during the second period, probably due to the fact that during that period, there is a steady increase in deposits ensuring a steady flow of funds to the banking institutions.

However, the sharp increase in security holdings during the most recent monetary policy tightening is more reflective of a "*flight to quality*" phenomena, a reallocation of banks assets towards government securities away from lending to the corporate sector. Banks chose to increase their holdings of government securities in relation to their total assets, indicating the declining in bank willingness to lend as banks devote an increasing share of their assets to securities. This is driven by the risky condition during the crisis owing to the increased cases of non-performing loans. Thus, overall, Bank Negara did not posses the ability to affect loans' supply through tight monetary policy.

Next, the bank lending behaviour is investigated, (see Figure 3.6). First, taking a look at the growth rate of bank loans through policy window. During the first monetary tightening, there is a decline in bank loans but it is very marginal. However, during the second monetary tightening, loan growth is excessive despite the tight monetary policy. It shows no tendency to weaken until after Bank Negara has reversed course and begun to ease policy. In other words, bank loans are not declining. Nevertheless, the loan growth is negative during the third monetary tightening.

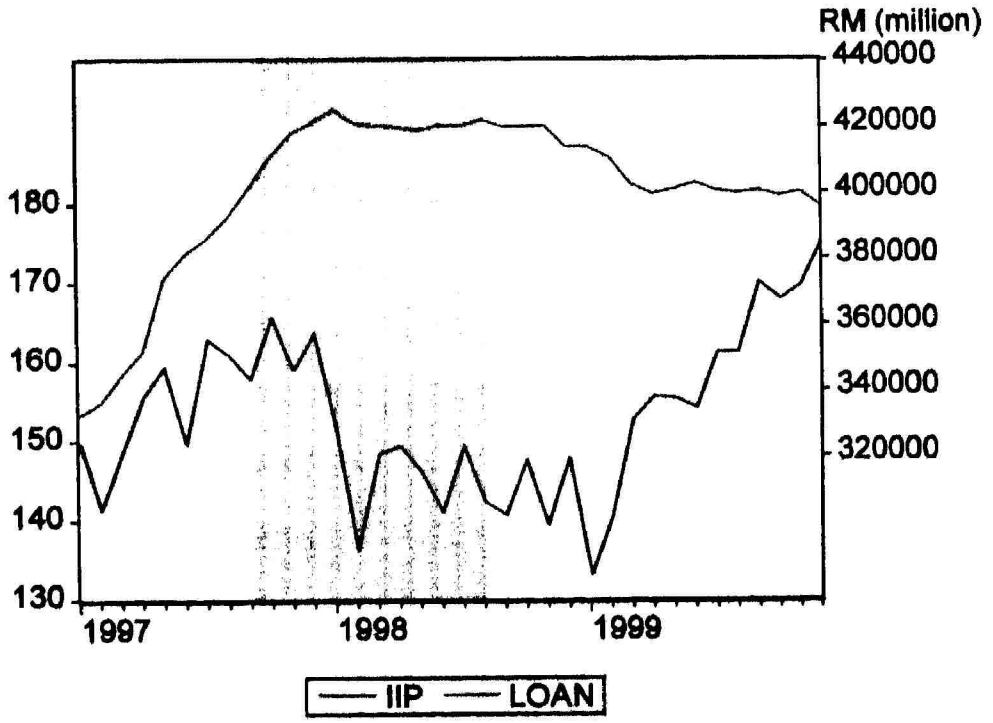
Figure 3.6 Growth Rates of Real Loans



Looking at the above cases, (see Figures 3.4 and 3.5) only in the most recent monetary tightening, there is a decline in deposits and a sharp increase in security holdings. Banking institutions appear to be unwilling to offset the lost of deposits by selling securities and obtaining additional funds in order to issue new loans. This implies the only in the third monetary tightening, the condition for credit-lending channel to operate, holds. Thus, from our descriptive analysis, only in the third monetary tightening credit-lending channel might has a role in the transmitting its effect to the real sector.

In Figure 3.7, the aggregated bank loans and the index of industrial production are studied to further ascertain the importance of bank lending in the economy. However, only the period under third monetary policy will be examined since only this period is identified as the period under which the banking institutions behaviour is consistent with the lending channel condition. It is clear that in this episode, lending tends to lag economic activity as measured by industrial production index. The peak in lending occurs a few months after the peak in industrial activity. According to Morris and Sellon (1995), these results imply that lending is driven by demand rather than supply. Thereby, it lends little support to the view that restrictive monetary policy constraints bank lending.

Figure 3.7 Evolution of Bank Loans and IIP (Episode 3)



3.5 Interest Rates Spread

Apart from that, an examination of the interest rate spread, the price-based variable is deemed necessary to clarify whether the contraction of loan supply, emanates from the supply side or rather just a demand side phenomenon. This is so since validity of a credit-lending channel depends on the fact that the decline in bank loans must emanate from the supply side, not demand side.

The first is the spread between average lending rate (ALR) and base lending rate (BLR). The traditional arguments go as follows: BLR reflects the cost of extending loans to a bank since it includes all the administered charges. Meanwhile, ALR, the weighted average lending rates that is actually charged on customers represents the income to the banks. Obviously, the higher the spread, the higher the profit to banks. Since profit is the motivation that is behind loan extension, the higher spread will drive more loans to be extended.

However, Domac (2000) offered a different explanation. His explanation represents the asymmetric information view. Base lending rate is more reflective of administered charges and more representative of the lending rate charged to prime-customers. On the other hand, the average lending rate incorporates the lending rate that is charged to borrowers that is perceived to be more risky. Accordingly, an increasing spread between

the latter and the former implies that banks are still reluctant to extent new loans. This observation also suggests that the higher the spread, adverse selection problem is more severe. Given the higher interest rate, only those with riskier investment projects are willing to borrow at the higher rate, for if the investment succeeded, they will be the primary beneficiaries. However, the higher risks associated with the projects make banks reluctant to lend.

These two different views can be simplified as follows:

Traditional views: Tight Monetary Policy → (ALR-BLR)↑ → higher profits → higher motivation for banks to extent loans → bank loans ↑.

Asymmetric information view: Tight Monetary Policy → (ALR-BLR)↑ → higher profits → higher rates discourage loans applicants with lower risk projects; invite those with riskier projects → adverse selection↑ → bank loans ↓.

Given the fact that bank loans decrease during the third focal episodes, the possible explanation would be that the adverse selection problems do occur in the economy during that particular episode. Available evidence shows that the interest rate spread starts increasing after the tightening of monetary policy but the increase is much more obvious after the easing of the monetary policy, (see Figure 3.8). The increase is attributed to the decline in BLR more than the decline in ALR.

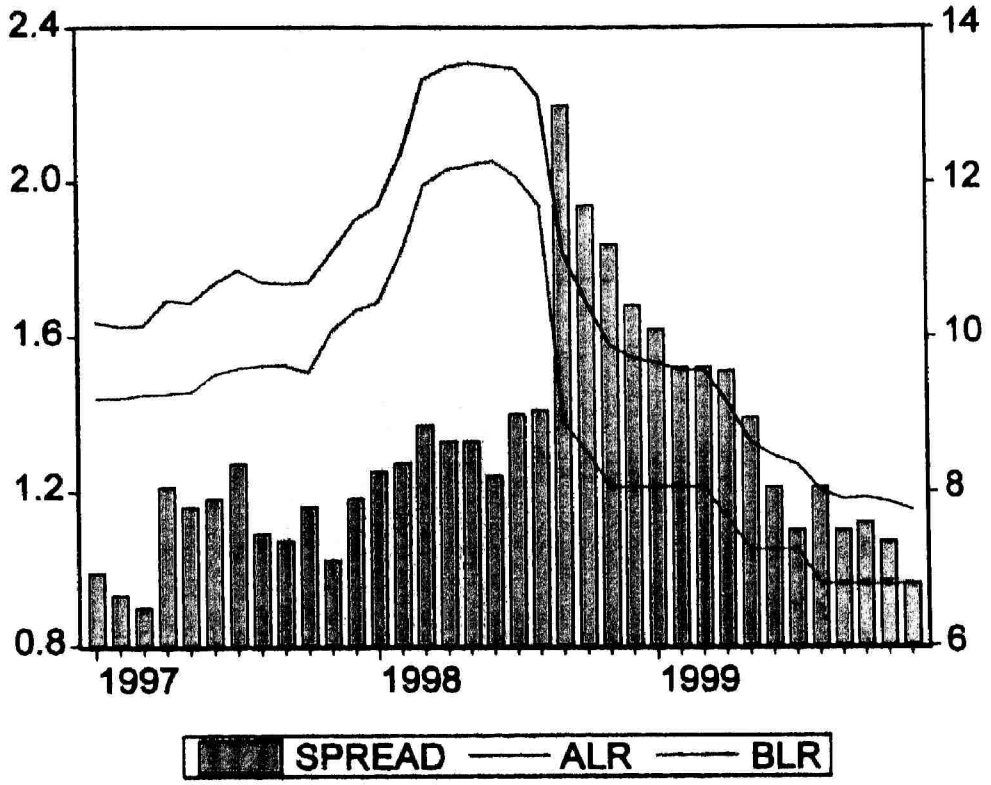
Note that in the Malaysian economy, the computation of BLR is based on the 3-month interbank intervention rates, so part of the BLR evolution reflects the stance of the monetary policy.

Given previous observation that loan growth is negative during the third focal episode, this demonstrates the fact that increase in the spread, in the aftermath of monetary tightening, is due to the banking institutions' reluctance to extend new loans. Moreover, the adverse selection problems are becoming more severe. It shows that apart from profit as measured by the spread, heavier consideration is given to risk factor, due to the imperfect information problems.

Evolution of the lending activity should be accompanied with the evolution of the spread between the average lending rate and the three month Treasury bill rate to determine whether the quantity decline in bank loans arises from a shift in either demand or supply. This spread capture both the general risk premium and the bank dependent borrowers' specific spread.

The three-month Treasury bill rate measures the general risk premium while the average lending rate represents the external premium. An increase in this spread can be interpreted as a tightening in terms of external finance. Accordingly, this spread will increase in the aftermath of

Figure 3.8 Interest Rate Spread

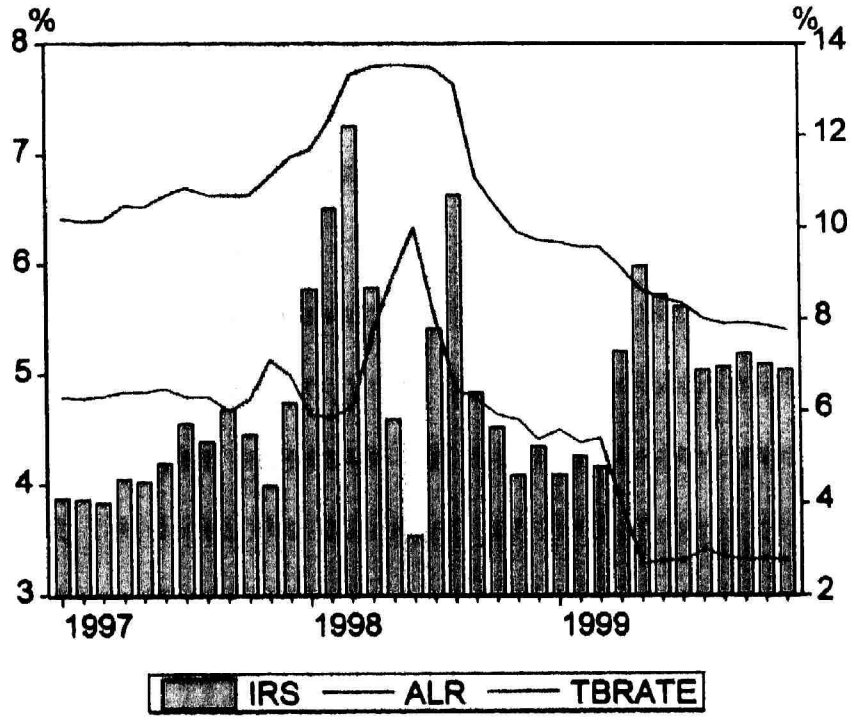


monetary squeeze if the credit-lending channel is operative. If the loans supply contracted due to a tight monetary policy, the external premium will increase due to either the rising interest rates or to the cost incurred to look after alternative financing due to credit rationing.

The particular interest rate spread evolution shows that during the tightening of monetary policy, the spread do widens, implying the fact that there is a tightening in the terms of external finance, (see Figure 3.9). The spread increased considerably after only a few months of monetary tightening. This lends support to the fact that the decline in loans in this period is attributed to the supply side, at least from mid 1997 till first half of

1998. Then, the decline in loans could be attributed to the demand side, due to the slow down of the economic activity.

Figure 3.9 Interest Rate Spread (IRS)



This finding is consistent with the study done by Domac (2000) and Gan (2000) on the loans market in the Malaysian economy during the last financial crisis. Using different methods, they found that the contraction of loans during July 1997 to Mac 1998 is due to credit crunch, while after that, it stems from the demand side, since economic activity began to slow down.

3.6 Conclusions

Putting together the above analysis, it is clear that for the first two periods of monetary tightening in the Malaysian economy, the credit-lending channel has no important role in transmitting its effect to the real sector. This is so since there is no evidence of declining credit, and the second condition concerning the ability of Bank Negara to affect the supply of loans, through implementation of tight monetary policy, is violated.

However, the situation is different during the most recent implementation of tight monetary policy. Available evidence, through descriptive analysis suggested that the credit-lending channel might be important. At least, the conditions for the existence of credit-lending channel hold. The examination done on the various interest rate spreads also agree with the fact that the decline of bank loans emanate from the supply side, at least till the first half of 1998, just before the easing of the monetary policy.

In conclusion, this chapter found that the bank loans or credit behaved according to the credit-lending channel view only in the third episode of monetary tightening. However, this behaviour is absent for the first two episodes. As such, an empirical investigation will be carried out to further clarify the findings of this descriptive analysis.